OHIO CULTIVATOR.

A Semi-Monthly Journal of Agriculture and Horticulture.

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OHIO CULTIVATOR.

A Semi-Monthly journal, devoted to the improvement of Agriculture, Horticulture, and the Mecanic Arts—and the promotion of domestic industry.

M. B. BATEHAM,
EDITOR AND PROPRIETOR.

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We have on hand a few hundred complete copies of Volume 1, neatly bound (stitched and trimmed,) in printed paper covers, for sale at 75 cents each. They can be sent by mail, as pamphlets, costing only 20 cents postage for any distance. Persons at a distance can send us $1 in a letter, for which we will send a copy postage paid, and pay the postage on the letter beside, if not over 5 cents.

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(*Note.*—As several persons have requested us to send them some other volume of the Farmer than that of 1842, we would here state that we cannot now furnish any other.)

Don't wait for Agents!

A number of our friend who are anxious to see our paper more generally circulated in their neighborhoods, have requested us to send special Agents among them to solicit subscriptions. We would say to all such, *appoint yourselves agents;* you can do the business better than a stranger. We have no agents employed who find it profitable to travel for us *among the farmers*, as our clubbing terms prevent them from getting many subscribers at more than 75 cts. each, and we cannot allow them additional commission.

Important Discovery!

The Wayne County Standard, in noticing the last number of the Ohio Cultivator, says: 'This valuable agricultural journal published at Columbus, continues to grow better and better. Each farmer in Ohio should have a copy of it. Send on your orders.'

Multum in parvo!—Our sentiments exactly, Mr. Standard! We intend that our paper shall 'continue to grow better and better' till every sensible man, like you will declare that 'each farmer in Ohio should have a copy of it.' We repeat then, ☞'send on your orders!'—plenty of back numbers on hand yet.

Another discovery!—Mr John B. Bayless, President of the Jefferson County Agricultural Society, in an address to the farmers of that county, published in the Steubenville Herald, says:

'I cannot too earnestly recommend the 'OHIO CULTIVATOR,' printed at Columbus, as a useful publication for the collection and diffusion of useful knowledge to every farmer, gardener, mechanic or housekeeper in the county; and I feel well assured that there are few if any, who take this paper that will not also wish to join our Society, and find the advantage to them, and every grown member of their family, to be more than ten times the expense.'

True for you Mr. President; agricultural societies never can be sustained or made efficient, until the farmers become readers of agricultural papers.

Scarcity of Fodder on the Reserve.

We learn by several letters from the Western Reserve, that great apprehensions begin to exist among many of the farmers in those parts where the drought was severe last summer, on account of the scarcity of fodder, and the prospect that many of the domestic animals which they have attempted to winter over, will starve to death around their dwelling, before the spring grass will appear.

This is a sad prospect indeed, and while we sympathise with our brethren in their destitution, we would advise them to use every possible effort to save their stock from suffering and death. It was natural that they should desire to keep as many cattle, sheep, &c., as they could see any possibility of wintering, and it is not surprising that this severe winter has caused a greater consumption of fodder than was anticipated, thus exposing them to suffering and want.

Our advise to farmers in such circumstances, is, let neighborhoods club together without delay, and drive all their stock that can travel, into the the central and southern portions of the state, (or other favored regions.) There is still plenty of fodder to spare in the Scioto valley, and abundance of grass and hay on the plains of Madison and Fayette counties, and also, we believe, in Delaware and Marion. The expense of keeping cattle in this vicinity, and south of us, will be only from 50 to 75 cts. per head per month for the remainder of the winter; and if the owners have not money with which to pay, they can sell a portion of the cattle here, or engage them to be kept on shares. We should be pleased if those having a surplus of feed on hand, would inform us thereof; stating locality, quantity, price, &c.

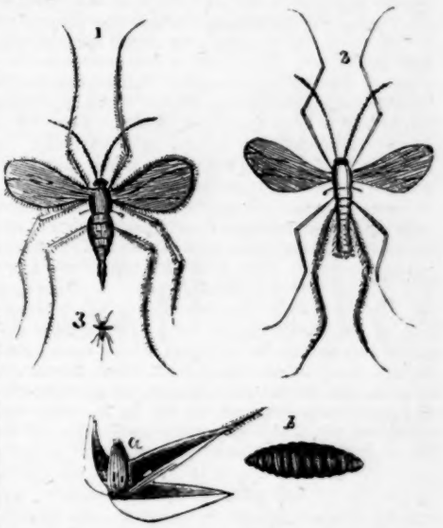
Sheep Wanted.

Any farmer having a good flock of sheep, and not sufficient fodder, may hear of a purchaser, with cash in hand, by sending us information concerning them, with a few specimens of the wool. They must be as fine as one-half to three-fourths blood merino, and from 300 to 1000 in number—the price moderate.

On Wheat Insects.

AN ESSAY ON THE WHEAT FLY, and some species allied to it—By Asa Fitch, M. D., Salem, N. Y., (written for the American Journal of Agriculture and Science; also published separately in pamphlet form.)

In reviewing this essay, we have not found its merits to equal the expectations that from a cursory glance we had formed respecting it. We had supposed from its title, its fine engravings, and the introductory remarks of the author, that this essay was calculated to supply a desideratum long felt by farmers in wheat districts, namely, to furnish a full and complete history and description of the different insects—species of the genus CECIDOMYIA—known in different parts of this country under the general title of the Wheat Fly. This we had a right to expect from the title of the work, and as such, it is evidently designed to pass, among those who are not conversant with the subject; while, at the same time, the author has omitted entirely to speak of or describe *the wheat insect*—and the only one that is known by the name of wheat insect in the prinpal wheat districts of the United States! We allude to what is sometimes called the Hessian fly, *Cecidomyia destructor*, of Say. No other species of this genus is as yet known in Western New York, in most parts of Pennsylvania, in Virginia, Ohio, and the other Western States; while this one has been known ever since the wheat crop has been cultivated there, and is often times very destructive. But let us see first what is described by Dr. Fitch, and then recur to this species again.



1. Clear winged wheat fly—*Cecidomyia tritica*, of Latrielle and Kirby.
2. Male of the same.—(These figures are greatly magnified.)
3. Natural size of the fly—about one-fifth of an inch in length.

a. Kernel of young wheat, with the husk or chaff open and larvæ feeding on the germ or pulp.

b. Pupa of the insect—greatly magnified.

The above figures copied from Dr. Fitch's essay, doubtless are correct representations, of the insect known as the Wheat Fly, in parts of the eastern States and England; but in the principal agricultural papers in this country it has been termed the WHEAT WORMS, to distinguish it from the before named species. It is figured and described in Loudon's edition of Kollar, and in the late editions of his Encyclopedia of Agriculture, and is also fully described by Dr. Harris in his report on the injurious insects in Massachusetts.

It appears from Dr. Fitch, and others, that this insect, (*C. tritica*) first appeared in this country, in Western Vermont, in 1820. One or two years afterwards, it was discovered in Eastern New York, and in New Hampshire; and in 1834, it had extended as far as Maine. It was very destructive to the wheat crop in some places, especially in about three or four years after its first appearance in a disrrict, but it was in most cases found to disappear in a few years, so as to commit but little injury.

Of its habits, it is stated that the fly makes its appearance early in June, or when the wheat is in blossom, and continues till it is nearly ripe. It remains mostly at rest during the day, but is on the wing during the night, and may be seen in the twilight, or by aid of a lamp, dancing actively about the heads of wheat, and some of them depositing their eggs in the glume or chaff of the kernel. From six to ten eggs are usually deposited in a kernel. One writer states that he discovered as many as 35 of these tiny flies on a single head of wheat, and after cutting it off and carrying it a quarter of a mile six of them continued to deposite their eggs.

The young worms, (larvæ,) are soon hatched; are very small, scarcely visible to the naked eye; are without feet or hairs, of a transparent or whitish tinge at first, but soon change to orange yellow. They feed on the grain in its milky state, by sucking its pulpy substance without penetrating the kernel, thus preventing it from filling out. Their ravages cease when the grain becomes hard; by this time the worms become full grown, and it is stated a part of them quit their dwelling place, fall to the ground, and descend beneath the surface, where they change to the *pupa* state, and remain dormant till spring. But a portion of them remain in the heads of wheat till harvest, and may be found on the floor when thrashing, or in the screenings, sometimes in great numbers. (Of course when discovered in this way care should be taken to destroy them; not throw them out where they can reach the ground.)

Such, in brief, is the history and habits of this insect: and this is the substance of the essay of Dr. Fitch. His suggestions respecting the means of checking its ravages, we deem of but little worth, but may give them at another time. Dr. F. gives descriptions of three distinct species of this insect, as he supposes: two of which he thinks have never been described before. They very nearly resemble each other, however; and he believes that their habits are so alike that they may be practically regarded as one.

Now, to make this article complete, and more fully to explain our previous remarks, we will append a brief description of what we and the farmers of western N. York, Ohio, &c. term the WHEAT FLY. And here we would express the hope that Dr. Fitch will favor the public with an explanation of his reasons for omitting to mention or describe this species in an essay which appears as though designed to describe this whole genus. It is true, this insect, may have never come under the personal observation of Dr. F., but with the abundant testimony respecting its ravages, to be found in the agricultural journals, and minute descriptions of its appearance, habits, &c. given by Dr. Harris and other respectable authors, we see no good reason for its omission. As an evidence that it was designedly omitted, we observe that Dr. F. quotes from Dr. Harris' report and calls the seven pages of that work devoted to *C. tritica*, 'an excellent summary of the history and habits of the Wheat Fly;' but he does not even once allude to the preceding 16 pages which are as good a summary of the history and habits of the more dreaded wheat fly—*C. destructor*. He also refers to volumes of the Albany Cultivator, the Trans. N. Y. S. Ag. Soc., and other works which describe both species, and some of them give plates illustrating the difference in their habits, &c.

1. *Cecidomyia destructor*, of Say—magnified.
2. The same, natural size—at rest.
3. Wheat plant, showing, the situation of the larvæ on the stalks near the roots.

This insect which has been known in this country for half a century or more, was first scientifically described by Mr. Say, in a communication published in the Journal of the Academy of Natural Science, of Philadelphia, July, 1817, accompanied by a plate of drawings representing the insect in its different stages, and the mode of its ravages on the wheat plant. This plate, (with some additions,) was copied into the Albany Cultivator in 1841, (vol. 8, p. 161,) and into the Trans. of N. Y. S. Ag. Soc., (vol. 3, p. 128,) and has also appeared in the Genesee Farmer, and several other publications in this country and in England. (The above cut is reduced from Say's).

It will be seen by comparing the representations that this species, (*C. destructor*,) bears a very close resemblance to the one before described, (*C. tritica*). Indeed we do not suppose they can be readily distinguished, except by observing the great difference in their habits. This, Hessian fly, as it is often called, generally commences its work of mischief in the fall, soon after the young wheat plants appear, when the parent fly may be discovered (by good eyes,) depositing its eggs in the groove or crevice of the leaf near the ground. The worms soon hatch, if warm weather, and descend to the neck or crown of the plant, where they suck its juice, and, if numerous, cause the leaves to turn yellow, giving a sickly appearance to the field. By the setting in of winter, the *larvæ* change into the *pupa* or 'flax seed' state, in which they remain till spring; when, if not destroyed by the severity of the winter or other means, they again appear as flies and deposite their eggs for a new progeny, or spring crop of worms. These are commonly far more numerous and destrnctive, as farmers well know, than the fall crop. Indeed, it often happens that those in the fall do so little injury as not to be discovered. And even in spring, the extent of the mischief is seldom known till the wheat is headed out, when, owing to the injury sustained by the stalks near the root, the supply of sap fails, and the straw withers and falls. At this time, on looking for the cause of the mischief, the insects are found in the pupa state, resembling small flax seeds, adhering to the stem, under the sheaths around the lower joints. These, if not destroyed by their natural enemy, the *Ceraphron*, in their turn become flies, in August or September, ready to deposite their eggs in the newly sown wheat, as soon as the plants appear.

Here, then, we have a summary of the habits of this very minute, but destructive enemy of the wheat farmer. We have made this article so much longer than we intended that we have not room at this time to offer any remarks on the means that have been suggested for preventing its ravages. Suffice it to say, that the most easy and effectual is, sowing so late as that the frosts will kill the flies before the young plants appear in the fall. Some varieties of wheat, having coarse strong foilage and straw, are found to be nearly or quite exempt from its attacks.

We believe the extent of its ravages has been comparatively small in this and several other wheat growing States for the past two years. May it long continue so.

A new Wheat Insect at the West.

The Prairie Farmer, has noticed at several times, the appearance of a new and very destructive insect in the grain fields of Illinois, which it calls the *Chinch Bug*.

The annexed cut is a representation of the insect (slightly magnified,) copied from that excellent paper. We have not had time as yet, to examine any books, in order to ascertain its true name or character, and the descriptions given of its habits, &c., are quite vague and unsatisfactory.

It is described as a small fly, a little more than one eighth of an inch in length, having 4 wings folded on its back, of a silver color, with dark spots, of the shape represented in the cut, (belonging to the order or family *Hemiptera*, we infer.) They were first discovered a little before harvest time; their appearance was indicated by the heads of wheat turning prematurely white. The insects appeared in great numbers, particularly around the joints of the wheat stalks, upon touching which they would fall to the ground as though dead. When the wheat was ripe, they took to the corn fields, and committed devastations on the stalks and husks of the growing corn; and from that they went to the newly sown wheat crop in the fall, &c. They are said to deposite their eggs just beneath the surface of the ground; and the young bugs may be found in great numbers, and of various sizes, around the roots of the wheat plants in the month of June. A writer in the Farmer says, "I think there must have been 5 or 6 generations of them on my farm this season. I had to give up harvesting my corn in consequence of their being so numerous, and of such an *offensive smell*. They smell very much like bed bugs. I think there were millions of them on some corn stalks in my field, being literally covered from the ground to the top." It is said that the same kind of insect appeared in some parts of that country a few years ago, also in Virginia, and one or two other southwestern States. Who will give us its true name and description?

Ohio Mustard Seed Crop--Its Culture.

The amount of brown Mustard Seed raised in this State, the past season, we should judge, was over 1,000 bushels. Of this, we have before shown, that Messrs. Fell & Brother, of Philadelphia, purchased 760 bushels, for which they paid in cash, $2,669 78. These gentlemen were prepared to have taken a larger quantity at the same rate had it been offered them. The price paid by them for good seed sent direct from Ohio, was 8 cents per pound. Some that was sent to the New York market, they bought at 7 cts. (the average weight per bushel is 52 lbs). Quite a number of those who attempted its culture last year were unsuccessful, owing to the remarkable character of the season, and their want of experience. We presume a much larger quantity will be raised the coming season; but we are not sufficiently informed as to the extent of the demand at the east, to judge whether any material reduction of price is to be anticipated from this increase of supply. We believe, however, that large quantities of the seed is annually imported for the Boston and New York manufacturers, and that no fears need be entaintered of glutting the markets at present; though it is possible that a slight reduction of price may have to be submitted to hereafter.

In fulfiling our promise to give full directions respecting the culture of Mustard Seed, we offer first the following experiments and observations, by a very intelligent young farmer of Muskingum county, who has had one year's experience in the business, and has derived some little advantage from a knowledge of the practice of Mr. Parmelee, who resides but a few miles distant. We expect to be able next month to give a detailed account of Mr. Parmelee's mode of culture, written by himself.

On the Cultivation of Mustard Seed.

FRIEND BATEHAM.—In accordance with your request and my promise made some time since, I will now give you an account of my last year's experiment in the culture of brown Mustard Seed, together with such observations and suggestions as I think may prove serviceable to those who may desire information on this subject.

The field that I sowed with this crop last spring, was 10 acres; soil a light rich sandy loam, excepting about one acre, which was clayey—the previous crop wheat. On one-half of this field I applied early in spring 100 two-horse wagon loads of manure, and 600 sheep had been kept nightly on the lot for a month previous, so that it was well enriched before plowing.

By the 9th of April, the soil was plowed, harrowed and bushed smooth, ready for sowing. I then with a small hoe made drills or trenches one inch deep and two wide, two feet apart; then with a cup of seed in one hand I sowed it by taking as much at a time, as could be held between the thumb and finger, and scattering it along the drills, as near as I could judge, one inch apart. (I used about a quart of seed to the acre.) A little practice enabled me to drop the seed quite regularly, and almost as fast as a horse would naturally walk before the plow, or at the rate of two and a half or three acres per day. The seed was covered to the depth of one quarter to one half inch by having a boy draw a brush over the drills.

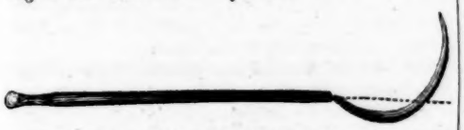
The weather being very dry, and also cold, the plants did not make their appearance till 10 or 12 days after sowing; they then grew very rapidly for about two weeks, when the drought again stopped them for near a month. During this time the ground was kept clean of weeds by hoe and hand. The first time cleaning was 12 days work. To have done in the best manner would have taken 18 days.

Being somewhat at a loss to know whether to thin my plants or not, I rode down to Mr. Parmelee's great field for information. I there found that his plants were at least a week ahead of mine in growth, and that they were standing more than twice as thick in the rows. He had

also made every alternate row one foot apart instead of two, so that he had about three times as many plants as I had to the same ground.

After the first cleaning, I tried using a shovel plow, but it covered weeds and plants together. I then made a small cultivator, having five teeth like little shovels, the size of a man's hand; this was the thing required, as it cut off the weeds and mellowed the soil without disturbing the plants. With this I went over the field three times in two weeks; then followed with a shovel plow, twice to a row, with boys to pull weeds out of the rows and uncover any plants that got buried. This left the field clear of weeds, and finished the work till harvest.

Not being quite certain as to the proper time, or best manner of harvesting the crop, I again went to Mr. Parmelee for information; I there found that he delayed cutting till the pods were dead ripe and the stalks nearly dry. It was then cut with sickles, (the kind with *smooth edges*, sometimes called grass sickles in this country—Ed.) and layed in small heaps for several days, to dry. I waited till my crop became sufficiently ripe, and had some knives or sickles made for the purpose, of a form that I found was quite an improvement, on those sold at the shops. I give you a rough drawing of one which will explain it.



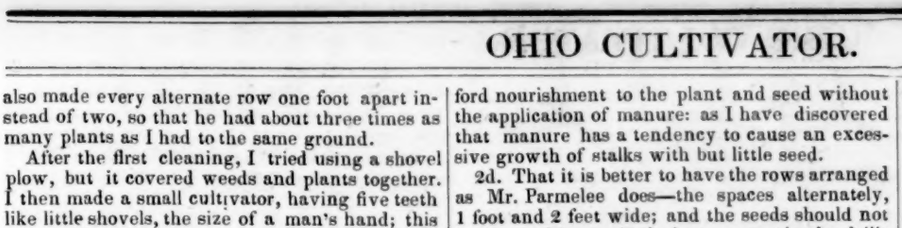
Tha handle is two feet in length and of size to suit the hand. The blade resembles a sickle, but is less curved. The edge forms a regular half circle, say 12 inches in diameter, and the shank is so formed that a stright line drawn lengthwise of the handle would strike the edge at the middle of the curve, (as shown by the dots in the above cut); by this means, when using the knife, it is drawn with a sloping cut, instead of square across the stalks as is usually the case with the common sickle, thus making easier work and causing less jar and waste of seed in cutting. At first, I cut during all the working hours of the day, but perceiving that the seed shelled out much worse after the dew was off than before, I hired half a dozen hands to work for me at 6¼ cts. per hour each morning, from daylight till the dew was off, during which time we cut about an acre each morning—costing about $1 50. The cutting was done from the 1st to the 10th of August.

After leaving the stalks in the field till perfectly dry, I hauled them to the thrashing floor on a sled, having a frame on top covered with canvas, 14 feet long and 12 wide, so as to catch the seed which shelled out. The thrashing floor consisted of canvas 12 feet wide and 20 feet long, surrounded on three sides with a strip of brown muslin 2 yards wide, (supported by stakes). At the open end of this floor a sufficient number of sheets were spread to contain the stalks as brought from the field. In thrashing, the stalks were laid head to head, in two rows along the floor, 8 to 10 inches thick, then beaten with green hickory poles, 10 or 12 feet long, (we found them better than flails,) till free from pods and seed. Two men thrashed in this way, and raked off the coarse chaff, as fast as a man and two boys brought the stalks on the sled, the distance varying from 10 to 40 rods. We thrashed in a week the product of the field, amounting to about 50 bushels. After taking off the coarse chaff, which was easily done with a common rake, the seed was spread on a dry floor where it lay for a month, being stirred three or four times a week to facilitate its drying, (the chaff and dust which remains prevents it from heating or becoming mildewed). When thoroughly dried, I cleaned the seed with a common fanning mill, passing it through twice, and the tailings three or four times.

Observations.—The improvements that have been suggested to my mind by this experiment, are the following;

1st. That the crop should be sown on sandy bottom soil, which is mellow and not liable to suffer from drought; and sufficiently rich to afford nourishment to the plant and seed without the application of manure: as I have discovered that manure has a tendency to cause an excessive growth of stalks with but little seed.

2d. That it is better to have the rows arranged as Mr. Parmelee does—the spaces alternately, 1 foot and 2 feet wide; and the seeds should not be dropped in a single line or row in the drills but scattered along so that the young plants cover 2 or 3 inches in width in each row, thus:



This will require about 2 quarts or 3½ lbs. of seed per acre. Standing thus thickly, the stalks will be smaller and shorter than when thin, but a greater amount of seed will be obtained from the ground without any additional labor.

3d. It should be sown as early in the spring as the ground can be got in good order. Spring frosts will not injure the plants, and an early start will do much to protect them against injury from drought.

4th. The utmost attention must be given to killing the weeds as soon as they make their appearance, and keeping them out of the crop during its growth; otherwise the seeds of weeds will become mixed with the mustard seed and greatly injure its value.

5th. After harvesting the crop, the ground should be thoroughly harrowed; which will cause the shelled seeds to vegetate. The plants will grow till frosts, when sheep should be turned in to eat them off. If this is not done the mustard will be troublesome to any succeeding crop; and even with this precaution, some will appear the next year.

Yours, &c., PHILE.

Putnam, O., Jan. 22, 1846,

Mr. Parmelee's Statements examined.

In our January No., we intimated that in our opinion, some of Mr. Parmelee's statements in regard to the culture and sale of his mustard seed have not been in strict conformity with truth and fairness. We greatly dislike to have anything to do with personal disputes and accusations; it too much resembles the conduct of partisan editors to suit our taste; but in the present case justice to honorable friends, to ourselves, and to a large number of our readers seems to demand a few words from us in reply to statements made by Mr. Parmelee. Let us hear them:

The first is a communication in the Zanesville Gazette:

Messrs. Parke & Bennett.—Having observed in a recent number of your paper, and in others, notices respecting the cultivation of mustard, the tendency of which seems to be to get up a mania on this small article amongst cultivators, and to tempt to disastrous enterprise, I think it not amiss, for one, to hand in to you my experience in that way, the last season.

I planted twenty eight acres with brown, and two acres with white, mustard seed. Of the former, the yield was 305 bushels, and of the latter, 15 bushels; in all, 320 bushels from 30 acres.

The expense of the crop delivered in New York was $1089. For 289 bushels I received $1117. The article being plenty, owing to a great influx of foreign seed, and most of it very beautiful, and of superior quality, I was obliged to submit to a reduction of one cent per pound from the price obtained last year. For the white mustard seed there was no demand. One cultivator from the northern part of New York, with a large lot of some hundred bushels of white mustard seed, and a beautiful article, could not effect a sale of the whole at five cents per pound, hich would be at the rate of two dollars and fifty cents per bushel.

Comparatively, I consider the result in my own case fortunate, as several undertakings of the same kind around me, proved entire failures, owing I judge, to the neglect of seasonable ahd thorough tillage.

I have no doubt but the farmer who should apply the same labor in the careful drilling and hoeing of wheat, upon the same land, which he would find it necessary to expend upon the same number of acres of mustard, would find himself much better compensated.

J. H. Parmelee.

Duncan's Falls, Nov. 28, '45.

The next is an extract from a letter written by Mr. Parmelee to Messrs. C. J. Fell & Bro., of Philadelphia, in August last, inquiring whether they wish to purchase his crop of seed. After stating that the quality of the crop is about the same as last year, or superior to it, he says:

'Appropos, while I write, and perhaps you will doubt it, here comes an agent from a house in Boston, proposing to buy my crop. He will give me eight cts. per pound less the cost of transportation to Philadelphia. I told him that as we had some dealings, I preferred to sell to you, and that perhaps you were expecting the offer; and that I thought you would give me half a cent more a pound, for an article that you know to be well saved and not likely to sweat and heat. I want that much more to compensate me for extra trouble on account of the season.—* * * He will call again. It may not be amiss to say that the ingathering of my crop is a four weeks job for 20 men, and three week afterwards a man must be employed to shovel it up thoroughly, every day, as it lays in the chaff.'

The letter of which the foregoing is a part, is the one to which allusion is made by Messrs. Fell & Bro., in their communication published in our paper on the first of the past month. A full copy of the original has been furnished us, with a number of others relating to the same subject, by the Messrs. Fell, at our request.

This letter and the article from the Gazette we think are characteristic of their author. They are evidently dictated by the same spirit that induced him a year ago to complain bitterly of the Messrs. Fell for allowing anything to be published respecting his large and profitable crop of mustard seed, and also of us for giving information respecting the mode of culture, &c., through the columns of our paper, thereby inducing a number of others to compete with him in the production of an article, for which our country has hitherto been, and is still mainly, dependent on Europe! Let us now briefly examine one or two of his statements:

He says, in the Gazette, that the yield of his recent crop of brown seed was 305 bushels, and that for 289 bushels he received $1117. Now by referring to the table of Messrs. Fell & Bro. in our paper of last month it will be seen that they paid him through their agent in New York, for 15,843 lbs., (305½ bushels) at 7 cts. per lb. (This would amount to $1112, not $997 as stated erroneously in the table.) We have also a copy of the letter of the agent in New York showing that the whole lot (82 bbls.) of Mr. P.'s brown seed was purchased by him and shipped to Philadelphia.

Again, he says he was obliged to submit to the reduction of one cent per pound on the previous year's price (8 cts.) owing to the article being plenty, and a great influx of foreign seed. This is sheer *gammon*, and contrasts finely with the story of the Boston agent's offering him eight cts. per pound. Besides, our readers are all aware that Messrs. Fell & Bro., made a standing offer through our columns, of 8 cts. per lb. for all good Ohio seed that might be sent, if shipped direct to Philadelphia; and the only reason why he and one or two others were obliged to accept of a lower price was, *because they chose not to comply with this liberal offer, but took their seed to the New York market, and after trying in vain to obtain a higher or as high price for it there, offered to sell it to the Messrs. Fell' at the price offered by them in Ohio;* but like high minded and honorable men, as they are, they very properly told them since they had not seen fit to comply with their offer, but had taken their goods to other markets, they might sell them in those markets for whatever was then and there the market price. Another reason, we are informed why Mr. P. did not receive a higher price for his seed, was, its quality was much inferior to his previous year's crop; part of it being unripe, and a part of it sprouted. So far from an unusual influx of foreign seed having caused a decline of price, it will be seen on referring to our paper of Jan. 1, the Messrs. Fell expressly declare that the supply in market was limited!

We now come to the extraordinary statement that 'the ingathering of his crop was a four weeks' job for 20 men.' To show how much truth there is in this, it is only necessary for us to say that we have recently seen and conversed with several of the men who were in his employ during the whole time, and they informed us that 20 men were only employed for 10 or 11 days, then 12 to 16 men for 9 or 10 days, then 4 men for 5 or 6 days in raking and shovelling the seed, making in all about 380 day's work, or 100 less than stated by Mr. P. Then, too, it remains to be shown what kinds of days work these were. We learn that the laborers were all Germans who reside at Taylorsville, seven miles distant from the Mustard field; that they had to row in a boat that distance down the river and back each morning and evening, so that their usual time of commencing labor was 8 o'clock, and of leaving 4 to 5 o'clock; thus loseing, as all must perceive, the best portions of summer days for labor. They were paid at the rate of 50 cts per day, dinners found, or 56 cts. without dinners. *'Nuff ced!'*

'The Milk-house about which *a subscriber* wrote to you (see O. C. for Nov. 15,) is going ahead.—Two rooms of basement—one the summer dairy, the other, a cellar, (we are *going in* for wine in Hamilton county; from the Catawba

and Isabella grape.)—The 2d story will consist of two rooms also—one for cheese, the other for apples; while the atic is to be finished off as a *beeparlor!*—The walls, of stone, two feet thick."—[Very good—let us know how it works, or, perhaps we may call and see for ourself.—Ed.]

Resusitating an old Orchard.

Mr: Robert Seevers wishes to be informed how to resusitate an old orchard. Old orchards, like old men, cannot be made young, but as his has been only twenty years in bearing, it is probable a *generous diet* would restore it to a considerable degree of health and vigor for a number of years.

The kind of soil described by Mr. Seevers, is that in which the apple tree rapidly arrives at maturity, and soon declines. The cause of this decline is evidently the want of proper nourishment in the soil to feed the trees. Sandy loams with gravelly subsoils, when new especially, contains a moderate amount of the proper nourishment in a very free condition, and orchards planted on them grow very well until this store of food is used up, and the trees then soon decline and ere long die.

To make such an orchard young, you cannot; but a reasonable state of health and productiveness may be given it for a number of years. To do this, proper food must be furnished. Lime, at the rate of about fifty bushels to the acre, is very useful. Whether the lime itself constitutes any portion of the food of fruit trees, or whether it only prepares substances already in the soil, or whether it acts in both ways as I think most probable, practically not very important. Wood ashes, is leached, is also highly useful.

Vegetable mould from the woods, chip dirt, a compost made of leaves from the woods two thirds, and barnyard manure one third, either or all, if liberally applied, will be found excellent restoratives. Of one or all these substances combined, about a common two horse load should be applied to the ground occupied by each tree and plowed in. The ground should then be planted in potatoes or corn. Or still better if planted with Jerusalem artichokes, to be eaten out by the hogs the succeeding spring. In rooting for the artichokes, the hogs find and destroy worms and insects injurious to the trees, and put the ground in good condition, especially if not pemitted to be in during wet weather.

No trimming should be done to the trees, except to cut out the dead limbs, and such as chafe others. In this climate, by far the most useful *triming* is the application of proper manures within reach of the roots, and good cultivation.

E. Nichols.

Bitter Rot in Apples.

Of this I feel myself much less qualified to speak. Bitter rot is probably not always the result of the same cause. In Mr. Lawson's case it is likely owing to the age and debilitated condition of his trees, and the disease or rather decline of his trees will probably be increased by his 'liberal triming.'

If the above supposition is true, then the remedies recommended in the preceding article would be equally applicable in his case.

I fear, however, the bitter rot is most frequently caused by a fungus—not the same variety, but similar to those producing smut and rust in wheat. If this is true, we are at present aware of no remedy. Some varieties of the apple are much more subject to this disease than others. Healthy trees are always less subject to disease than unhealthy ones, and this is especially true in all plants of such disease as are produced by fungi. I suppose, therefore, that proper manure and good cultivation will in most cases prove highly serviceable.

To cultivate oats, buckwheat or rye in orchards or corn, potatoes or artichokes, and permit the hogs to take the crops, is in my judgment a highly useful practice.

Truly yours, E. Nichols.

Walhonding, O., Jan. 1846.

Peach Buds are mostly killed in some localities in this region, by the very severe cold in December.

The Weather has at length moderated, with prospects of rain. Wheat looks finely

OHIO CULTIVATOR.

COLUMBUS, OHIO, FEBRUARY 1, 1846.

To Correspondents and Readers.

Glad of it!—We are still completely *flooded* with communications, letters of inquiry, &c., intended, for our columns, or demanding our investigation. Well, send them on, friends, while you have time for thought and writing; we will insert or attend to them as fast as our space and time will permit, and keep a batch of them on hand for next spring and summer, when you will not have time to favor us in that way. Only you must not grow impatient, but allow us to judge which are most suitable for immediate use.

We have on hand, designed for our next, articles from Hon. E. Whittlesey, D. Lapham, E. Nichols, H. J. Canfield, G. Keen, Dr. Townshend, Dr. Barker and several other well known writers. Also, an article respecting a flock of pure Guadeloup Merino sheep, in Madison co., belonging to N. Sawyier, Esq., of Cincinnati. We have likewise several other letters with fine samples of wool, which will be noticed, and exhibited to any of our sheep farming friends who desire to inspect them.

Culture and use of Artichokes.—Our thanks are due to Thos. Noble Esq., of Stark co., for a communication giving full information on this subject, in answer to our request.

☞ Accounts of big corn crops, and experiments in cultivation in our next.

The discussion on plaster, by D. L., in this paper, deserves the particular attention of every wheat farmer.

"Ida," need have no fears of our using her communication "to light a cigar." We don't practise any such vulgar habits as *smoking*.

Sowing Clover Seed.—We want to speak on this subject in our next, and wish some half a dozen or more experienced farmers would immediately give us their views concerning it.

Potatoes from Seed.—Some person sent us last fall a small box of fine looking potatoes, said to have been produced from seed. Unfortunately the letter accompanying them was lost before we could notice them, and worse still, they have all been destroyed by freezing in a cellar where we deposited them for the winter. If the donor will forgive us, and renew the gift, we will be more careful next time.

Wanted, for our 'little farm,' a laboring man who has some knowledge of gardening and general cultivation, to be employed by the year. One having a small family would be preferred, as there is a cottage on the premises.

Mustard Seed.

We have with considerable effort and some travel, succeeded in obtaining a moderate supply of genuine brown Mustard Seed, to supply such of our readers as may wish to engage in its cultivation. The price is 12½ cts. per lb. Some deduction will be made when 20 lbs. or more is wanted by one person. Directions for cultivation will be found in another part of this paper. More information on the subject will be given next month.

Fine Peas for Gardens.

We have received a barrel each, of genuine early June, and Blue Imperial Peas, raised from English seed, by a gardener in Canada, where they grow free from bugs.—The blue imperial is a very large and delicious pea, of a more dwarfish growth than any other large pea, and on that account more easily cultivated, and is less liable to become buggy than any of the white kinds. Price 25 cts. per quart.

Flower Seeds will be ready by the 15th inst. Also, a full assortment of garden seeds; most of these are now ready.

Seeds for Hot-Beds, including nearly all the kinds of Garden Vegetables wanted for early use on hand, for sale at this office. Others will be speedily obtained from the best sources.

Yankee Sheep in Ohio.

Being at Zanesville the past week, we rode out with our friend Philo Buckingham, to his farm, one mile from Putnam, to see his Paular Merino sheep, obtained from the east the past fall, and noticed in our paper of Nov. 1. They consist of four head—one buck and two ewes, coming one year old, from the celebrated flock of S. W. Jewett, Esq., of Vermont, and a six year old buck, of the same variety, from the flock of Mr. Blakely, of Conn. These sheep arrived late in the fall, after a very long voyage, and in poor condition, but with good care they have improved rapidly, and now appear very healthy and vigorous. We found them among a flock of *plebians*, busily at work scratching away the snow with their feet to get at the grass beneath, apparently supposing they were upon their own New England hills. (Indeed the winter thus far has been such as would do no discredit to Vermont!)

The fleeces of these sheep are remarkably heavy, compact, fine and even, which, combined with their great vigor and hardiness of constitution, render them every way a very desirable and profitable variety. We have seldom if ever seen more perfect specimens of their kind than these of Mr. Buckingham's. We took specimens of their wool, which any who desire to do so can inspect at our office.

We believe that our friend W. H. Ladd, of Jefferson co., and several other Ohio farmers got fine sheep from the east last fall. We should like to hear from them respecting the number, breed, &c.

Ohio Legislature.

We cannot speak favorably as yet of the doings of this body, and would therefore prefer saying nothing on the subject, were it not that many of our readers expect us to keep them advised respecting certain important measures for which they have strongly petitioned. For the present we will only say that very little except local and party measures has occupied the attention of the legislature for the past month. A number of the members tell us that they believe some if not all of the bills relating to agriculture will pass. We hope they may, for the credit of the members and the good of the State, but we confess there seems to be very little disposition to act upon any subject that is not urged by some private or party interests. We will not judge them hastily however, but wait till they adjourn, and then if a review of their doings seems due to our readers we shall give it.

Mr Wetmore's Agricultural bill is still in the hands of the Finance Committee of the Senate, and one of the members of that committee informs us that the Chairman has never called the committee together to consider upon it!

The bill for the protection of sheep raisers, by imposing a tax on dogs, has been remoddled so as to leave it for the counties or townships to decide by vote at the Spring elections, whether such tax shall or shall not be imposed. This is thought to be the best shape in which its passage can be obtained. It may do some good, especially if a clause is added, allowing persons to kill dogs, when trespassing on their premises without their owners being with them.

Fancy Poultry.—We made some inquiry at Zanesville respecting the fancy breeds of poultry that we have been informed, were kept in that vicinity. We found a few Polands and Dorkings, though none of pure quality for sale at reasonable prices at the present time. There will be a supply of these, and perhaps one or two other varieties, for sale next summer and fall, of which we will give timely notice. Another chapter on poultry, with pictures, will appear in our columns before long.

LADIES' DEPARTMENT.

God of the Seasons.

BY ROBERT E. H. LEVERING.

God of the Seasons! list the cry
That com'st to thee throughout the land!
Impart, but when thou dost deny,
We patient bend to thy command!

God of the spring time! bless the seed,
The ready soil with sun and rain,—
We know without thy timely aid,
Inert the seed, the soil, the grain!

God of the summer! grant the yield,
The rip'ning fruit and grain increase,
And through the waving harvest field,
Shed holy gratitude and peace!

God of the Autumn's golden hoard,
By whom we're cheered and clothed and fed,
As thou has blest our plenteous board,
We'll bless the pining sons of need!

God of the wintry hours! we'll sing
To thee, around the cheerful hearth,
Who dost each needed blessing bring,
To wholesome toil and household mirth!

God of the seasons! give us grace,
To labor in the moral field,
And when complete the Christian race,
With joy the better harvest yield.

Letter from 'Sally.'

MR. EDITOR: I was much pleased with your remarks in the last number of the Cultivator, addressed to the Ladies. While I have been both pleased and instructed by the communications in the 'Ladies Department' of your columns the past year, I think that if more attention was devoted to the practical matters, or every day duties which we are called upon to engage in, it would be more profitable to the majority of your female readers. I would join in the request of 'Rosella of Richland' for instructions in household economy, but I am fearful that some will ask why I do not set an example by contributing something of my own experience. My answer is, like that of many others, I have too little experience of my own, and cannot furnish anything original that would be of value.

If you think it desirable, however, I will send you occasionally a receipt or two that I have found valuable to me; gathered mostly from agricultural papers taken by my father, during the past five years. Such of these as are not too common, and have been fully tested by experience, may perhaps be of benefit to some of your readers. I would greatly prefer, however, that more experienced housewives should favor us with instructions in these arts and mysteries, derived from their own practice and observations. Yours, &c.,

Wahington co., O., Jan. '46. SALLY.

*** Most assuredly, we shall be pleased to receive and publish such favors as those you speak of, kind SALLY. (Oh, that *name!*) Pardon our freedom, but will you not oblige us by writing your name SARAH next time? Somebody, we believe 'twas Byron, said or sung:

'I have a passion for the name of MARY.'

And we can say almost as much for that of SARAH; for we never knew a person of that name who was not beautiful or good.—ED.

Receipes in Domestic Economy.

Wisconsin Mince Pies.—Take the usual quantity of meat, and substitute *beets* for apples; put in only one third the quantity of the latter; boil the beets, pickle them in vinegar twelve hours, chop them very fine, and add the vinegar they were pickled in. Add one eighth of grated bread, and spice to suit your taste.

Custard without eggs.—One quart of new milk, two table-spoonfuls of flour, two table-spoonfuls of sugar, season with nutmeg or cinnamon, and add a little salt. Set the milk over the fire, and when it boils pour in the flour, which should be previously stirred up in a little cold milk. When it is thoroughly scalded, add the sugar, spice and salt, and bake it either in crust or cups.

Cooking Potatoes.—Select the potatoes you design for dinner the day previous; pare them, and throw them into cold water, and let them stand three or four hours; then, at a proper time before dinner, put them into boiling water; and when they have sufficiently boiled, turn off all the water, leave off the cover, and hang them over the fire to dry. When the steam has passed off, they will then be in the best possible condition for eating. By this mode, potatoes even of a watery and inferior quality become mealy and good.

MECHANICAL DEPARTMENT.

☞ Every Farmer, and every Laboring Man, as well as every Mechanic, will find great and frequent advantage from a knowledge of the Science of Mechanics. Try it, young men, and see!

On the Mechanic Powers.

From Lardner's Popular Lectures on Science and Art: copied by the permission of the publishers.

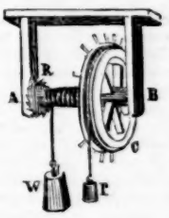
WHEELWORK.—*Continued from our last, page* 14.

Fig. 4

When a lever is applied to raise a weight, or overcome a resistance, the space through which it acts at any one time is small, and the work must be accomplished by a succession of short and intermitting efforts. In fig. 4, after the weight has been raised from W to W', the lever must again return to its first position, to repeat the action. During this return, the motion of the weight is suspended, and it will fall downward unless some provision be made to sustain it. The common lever is, therefore, only used in cases where weights are required to be raised through small spaces, and under these circumstances its great simplicity strongly recommends it. But where a continuous motion is to be produced, as in raising ore from the mine, or in weighing the anchor of a vessel, some contrivance must be adopted to remove the intermitting action of the lever, and render it continual. The various forms given to the lever, with a view to accomplish this, are generally denominated the *wheel and axel.*

In fig. 10, A B is a horizontal axle, which rests in pivots at its extremities, or is supported in gudgeons, and

Fig. 10.



capable of revolving. Round this axis a rope is coiled, which sustains the weight W. On the same axis a wheel, C, is fixed, round which a rope is coiled in a contrary direction, to which is appended the power, P. The moment of the power is found by multiplying it by the radius of a wheel, and the moment of the weight by multiplying it by the radius of its axle. If these moments be equal, the machine will be in equilibrium. Whence it appears that the power of the machine is expressed by the proportion which the radius of the wheel bears to the radius of the axel; or, what is the same, of the diameter of the wheel to the diameter of the axel. This principle is applicable to the wheel and axle in every variety of form under which it can be presented.

It is evident that, as the power descends continually, and the rope is uncoiled from the wheel, the weight will be raised continually, the rope by which it is suspended being at the same time coiled upon the axle.

When the machine is in equilibrium, the forces of both the weight and power are sustained by the axle, and distributed between its props, in the manner explained in fig. 7.

When the machine is applied to raise a weight, the velocity with which the power moves, is as many times greater than that with which the weight rises, as the weight itself is greater than the power. This is a principle which has already been noticed, and which is common to all machines whatsoever. It may hence be proved that, in the elevation of the weight, a quantity of power is expended equal to that which would be necessary to elevate the weight if the power were immediately applied to it, without the intevention of any machine.—This has been explained in the case of the lever, and may be explained in the present instance in nearly the same words.

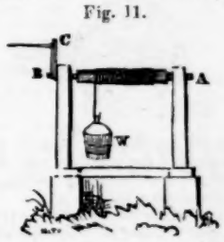
In one revolution of the machine, the length of rope uncoiled from the wheel is equal to the circumference of the wheel, and through this space the power must therefore move. At the same time, the length of rope coiled upon the axle is equal to the circumference of the axle, and through this space the weight must be raised. The spase, therefore, through which the power and weight move in the same time, are in the proportion of the circumference of the wheel and axle; but these circumferences are in the same proportion as their diameters. Therefore the velocity of the power will bear to the velocity of the weight the same proportion as the diameter of the wheel bears to the diameter of the axle, or, what is the same, as the weight bears to the power.

We have here omitted the consideration of the thickness of the rope. When this is considered, the force must be conceived as acting in the direction of the centre of the rope, and therefore the thickness of the rope which supports the power ought to be added to the diameter of the wheel, and the thickness of the rope which supports the weight to the diameter of the axle. It is the more necessary to attend to this circumstance, as the strength of the rope necessary to support the weight causes its thickness to bear a considerable proportion to the diameter of the axle; while the rope which sustains the power not requiring the same strength, and being applied to a larger circle, bears a very inconsiderable proportion to its diameter.

In numerous forms of the wheel and axle, the weight or resistance is applied by a rope coiled upon the axle; but the manner in which the power is applied is very various, and not often by means of a rope. The circumference of a wheel sometimes carries projecting pins, as represented in fig. 10, to which the hand is applied to turn the machine. An instance of this occurs in the wheel used in the steerage of a vessel.

In the common *windlass* the power is applied by means of a *winch*, which is a rectangular lever, as represented in fig. 11. The arm B C of the winch represents the ra-

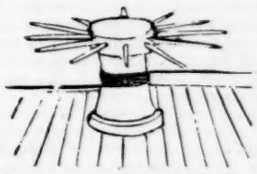
Fig. 11.



dius of the wheel, and the power is applied to C D at right angle to B C.

In some cases no wheel is attached to the axle; but it is pearced with holes directed towards its centre, in which long levers are incessantly inserted, and a continuous action produced by several men working at the same time; so that while some are transferring from hole to hole, others are working the windlass.

Fig. 12.



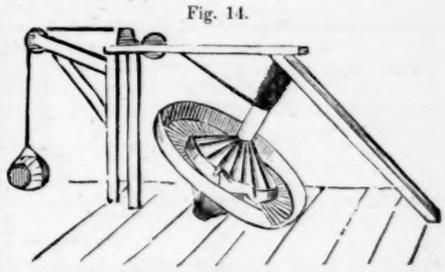
The axle is sometimes placed in a vertical position, the wheel or levers being moved horizontally. The *capstan* is an example of this: a vertical axis is fixed in the deck of the ship; the circumference is pearced with holes presented towards its centre. These holes receive long levers, as represented in fig. 12. The men who work the capstan, walk continually round the axle, pressing forward the levers near their extremities.

In some cases the wheel is turned by the weight of animals placed at its circumference, who move forward as fast as the wheel descends, so as to maintain their po-

Fig. 13.

sition continually at the extremity of the horizontal diameter. The *treadmill*, fig. 13, and certain *cranes*, such as fig. 14, are examples of this.

Fig. 14.



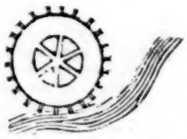
In water-wheels, the power is the weight of water con

tained in buckets at the circumference, as in fig. 15,

Fig. 15.

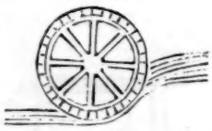
which is called an overshot wheel; and sometimes the impulse of water against float-boards at the circumference,

Fig. 16.



as in the undershot wheel, fig. 16. Both these principles act in the breast-wheel, fig. 17.

Fig. 17.

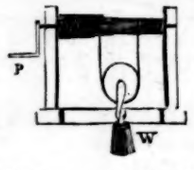


In windmills, the power is the force of the wind acting on various parts of the arm; and may be considered as different powers simultaneously acting on different wheels having the same axle.

In most cases in which the wheel and axle is used, the action of the power is liable to occasional suspension or intermission, in which case some contrivance is necessary to prevent the recoil of the weight. A ratchet-wheel, R, fig. 10, is provided for this purpose, which is a contrivance which permits the wheel to turn in one direction; but a catch which falls between the teeth of a fixed wheel prevents its motion in the other direction. The effect of the power or weight is sometimes transmitted to the wheel or axle by means of a straight bar, on the edge of which teeth are raised, which engage themselves in corresponding teeth on the wheel or axle. Such a bar is called a rack; and an instance of its use may be observed in the manner of working the pistons of an air pump.

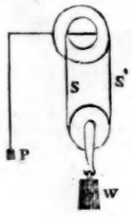
The power of the wheel and axle being expressed by the number of times the diameter of the axle is contained in that of the wheel, there are obviously only two ways by which this power may be increased, viz: either by diminishing the diameter of the axle, or increasing that of the wheel. In cases where great power is required, each of these methods is attended with practical inconvenience and difficulty. If the diameter of the wheel be considerably enlarged, the machine will become unwieldy, and the power will work through an unmanageable space. If, on the other hand, the power of the machine be increased by reducing the thickness of the axle, the strength of the axle will become insufficient for the support of that weight, the magnitude of which had rendered the increase of the power of the machine necessary. To combine the requisite strength with moderate dimensions and great mechanical power is, therefore, impracticable in the ordinary form of the wheel and axle. This has, however been accomplished by giving different thicknesses to different parts of the axle, and carrying a rope, which is coiled on the thinner part, though a wheel attached to the weight, and coiled it in the opposite direction on the thicker part, as in fig. 18. To investigate the proportion of the pow-

Fig. 18.



er to the weight in this case, let fig. 19 represent a sec-

Fig. 19.



tion of the apparatus at right angles to the axis. The weight is equally suspended by the two parts of the rope S and S', and therefore each part is stretched by a force equal to half the weight. The moment of the force which stretches the rope S is half the weight multiplied by the radius of the thinner part of the axle. This force, being at the same side of the centre with the power, cooperates with it in supporting the force which stretches S', and which acts at the other side of the centre. The moments of P and S are equal to that of S'; and, therefore, if P be multiplied by the radius of the wheel, and added to half the weight multiplied by the radius of the thinner part of the axle, we must obtain a sum equal to half the weight multiplied by the radius of the thicker part of the axle. Hence, it is easy to perceive, that the power multiplied by the radius of the wheel is equal to half the weight multiplied by the difference of the radii of the thicker and thinner parts of the axle; or, what is the same, the power multiplied by the diameter of the wheel is equal to the weight multiplied by half the difference of the diameters of the thinner and thicker parts of the axle.

A wheel and axle constructed in this manner is equivalent to an ordinary one in which the wheel has the same diameter, and whose axle has a diameter equal to half the difference of the diameters of the thicker and thinner parts. The power of the machine is expressed by the proportion which the diameter of the wheel bears to half the difference of these diameters; and therefore this power, when the diameter of the wheel is given, does not, as in the ordinary wheel and axle, depend on the smallness of the axle, but on the smallness of the difference of the thinner and thicker parts of it. The axle may, therefore, be constructed of such a thickness as to give it all the requisite strength, and yet the different parts may be so small as to give it all the requisite power.

It often happens that a varying weight is to be raised, or resistance overcome, by uniform power. If, in such a case the weight be raised by a rope coiled upon a uniform axle, the action of the power would not be uniform, but would vary with the weight. It is, however, in most cases desirable or necessary that the weight or resistance, even though it vary, shall be moved uniformly. This will be accomplished if by any means the leverage of the weight is made to increase in the same proportion as the weight diminishes, and to diminish in the same proportion as the weight increases; for in that case the moment of the weight will never vary, whatever it gains by the increase of weight being lost by the diminished leverage, and whatever it loses by the diminished weight being gained by the increased leverage. An axle, the surface, of which is curved in such a manner that the thickness on which the rope was coiled continually increases or diminishes in the same proportion as the weight or resistance diminishes or increases, will produce this effect.

(*To be continued.*)

"Twas from Philosophy man learned to tame
The soil * * * * * * *'—*Beattie.*

A Discussion on the Use of Plaster as a Manure.

Showing how farmer Scott overcome his prejudice against book farming; and how much practical information might be gained by reading scientific books: and how he borrowed a book and took home with him to read—having discovered he was not too old to learn.

Farmer Scott.—Good morning, neighbor L. you appear to be enjoying yourself by a comfortable fire this cold morning; and I see you are still poring over your books.

Neigh. L.—Yes, friend Scott, I was looking over to see what had been said about the use of plaster, as I intend to make use of it again on my land next season.

Far. Scott.—I have just heard that you have been buying some more of that *stimulating intoxicating* Plaster of Paris.

Neigh. L.—I sent to Sandusky last fall, and bought eight barrels, (at a cost of $1,00 per 100 pounds, delivered.) I obtained so much benefit from the 4 barrels I procured before, that I am going to give it another trial.

Far. Scott.—I came over neighbor L. just to give you a piece of advice: I am a plain man, a farmer by *profession*, and have spent the greater part of my life now fifty years gone, on a farm; and I think I have some little knowledge of farming operations, and how they ought to be carried on. *You* are a young man, and have been brought up to another profession, and you have only been on the farm here about two years; and I have observed, with regret, that a considerable portion of your time has been spent in reading the papers, and these books that you have here in this glass case. Now if you will just take my advice, (and it is given in sincere friendship,) you will quit your book farming, and go to farming by hard work, instead of by books. No man ever got rich by farming without hard work; at least I have found it so; and you will soon find too, if you continue putting plaster on your soil you will *ruin* it, for it kills the life of the land, and I protest against its use in any shape or form.

Neigh. L.—Your superior age and practical experience ought to command my respect for your opinions; and so far as they are founded on reason and the laws of nature, I shall give them great deference. But you have given no reasons for your objections to the use of plaster; and I think you would not condemn it so positively, unless you had some good reasons, founded on your long experience. Will you give me some facts and experiments on the use of plaster which have given you such an unfavorable opinion of its value.

Far. Scott.—I tried it many years ago on my lands, and had sore cause to repent it. I stocked down a field to clover, and sowed on plaster, in the usual way. The clover grew monstrous large, from four to five feet high—no, I mistake—from four to five feet long,—for long before mowing time, it was completely lodged down, and twisted every which way. It was a great yield, but it was no very desirable job to mow it. The next year I had about an ordinary yield; the third year I again put on plaster; but it had no visible effect, and I had only about half a crop of hay. The fourth year it was hardly worth mowing. I then plowed it up and planted it with corn; but the life of the land was departed; the corn grew only three to four feet high. And it did not yield more than ten bushels to the acre. To make up for the deficiency, however, I had a small crop of sorrel and stunted moss, and I have always observed that these last mentioned productions are a constant attendant on lands much exhausted.

Neigh. L.—Although I have been farming but two years, yet in that time I too have tried an experiment with plaster; and the result has been quite different from yours; and it has given me a very favorable opinion of the efficacy of plaster, when it is properly used. In the spring of 1843, I had 16 acres well set in clover, on which I sowed 16 bushels of plaster. It yielded a very large crop of hay, which was cut in June. The second crop was intended for seed, but the plaster made the clover grow so rank, that there was not seed enough to be worth saving, and the crop was pastured off. The next season the first crop was cut for hay, and the second crop which was an average yield was well plowed in, and the field sown with wheat. In sowing the plaster, which was done on a windy day, there were several strips across the field, that received no plaster; and the difference in the growth of the clover and of the wheat, was very perceptible; and could be observed almost as far as the field could be seen; and when the wheat was cut, it was found by a careful examination, that on the plastered part, the straw was of a brighter color, and full six inches higher: the heads longer and heavier, and the wheat on this part was fit to cut fully a week before that on the unplastered strips.* Now here are two experiments, made by different persons, and exhibiting different results; and each one of us has drawn a different conclusion, as to the efficacy of plaster. But how are these results to be reconciled? Suppose I look into this book and see what is there said about the nature and composition of plaster.

Far. Scott. Stop, stop; I dont want any of your *philosophising;* for EXPERIENCE is every thing. The man that sows clean seed wheat, and in time of harvest finds one fourth, or one half of it cheat, *knows for a certain* that wheat will turn to cheat, *for he has seen it.* And the man who critically observes the influence of the moon on the weather, and on vegetation, KNOWS IT TO BE A FACT; and all the reasoning, and burlesque, and ridicule of book learned men, who have paid no attention to the subject, can not convince me to the contrary, for it is a truth fully established that FACTS are stubborn things.

Neigh. L. I fully agree with you, friend Scott,

* If the rust in wheat is developed by a peculiar state of the atmosphere at a particular stage of the growth of wheat, would not the earlier ripening of the wheat thus produced, be the means of preventing the attacks of this destructive parasite?

that facts and experiments ought to be the guide in doubtful cases. But people are some times liable to err in their observation of facts. Here are two experiments apparently conducted alike, presenting different results; it may be possible that some apparently trifling circumstance has been overlooked in one or the other of the experimens, which may have been the sole cause of the different results; and it would be well to repeat the experiment, which I intend to do, and to examine what has been done by others, as well as the nature of the soils, and the planter itself, to see if these difficulties can not be explained: and perhaps some improvement may be made in the manner of using plaster when these things are fully understood.

Far. Scott. I know all about it now; I dont care what any body else says about it; I have tried it, and I can give as good reasons for my opinions as any body else can for his. Plaster does not contain one single principle or property of manure. It operates only as a *stimulus;* and by its use, *one* large crop of clover may be produced, as was the case in both our experiments, and then it leaves the land in a worse condition than it was before. It is just so with the whiskey drinker; by drinking large quantities of liquor, it raises his ideas, stimulates his feelings, and he may do more work for an hour or two;—but can he do more work for a week, a month, a year? It is even so with plaster. Larger crops may be produced for a few years, or rather a year or two; but when the effect of this stimulus is over, the strength of the land is exhausted, and, like the drunkard, literally lays down in the furrow!

Neigh. L. I think you told me the other day, that you were well acquainted with Judge Buel, many years ago!

Far. Scott. Yes, I knew him when I lived in the State of New York. He was a *real practical* farmer, and worked with his own hands: and whatever *he* would say, I should have confidence in, for he was not one of your modern scientific book learned farmers.

Neigh. L. I suppose, then, if I should read to you v hat he says in this *book*, about sowing plaster, you would not dispute the authenticity of it, because it was *printed?*

Far. Scott. I would believe it, if it did not contradict *my own* experience. But what does the book say?

Neigh. L. Then you are willing to hear it *now!* Judge Buel says he has made a great variety of experiments, in the use of plaster, and from his experience, he is satisfied that it should be sown very early in the spring—even before the snow goes off.

Far. Scott. That, certainly is a new idea to me. I never heard of any body sowing plaster on snow before. I sowed mine on the clover, after it was leaved out, some time in April; and I believe this is the general practice. I would like to know what good it would do to sow plaster on snow; or to sow it before the clover was up.

Neigh. L. Here is another book, which was written by a german named Liebig, in 1840;—but he is one of "your modern scientific book learned men," and you will put no confidence in what he says.

Far. Scott. That depends on circumstances. But what does he say about sowing plaster on snow!

Neigh. L. I believe he says nothing about that. But he says that snow and rain water contain a considerable quantity of carbonate of ammonia; particularly after a long drought.

Far. Scott. Carbonate of ammonia!—now you are going into your scientifics. I would like to know what that is, for I am no wiser now, than I was before.

Neigh. L. Here is a little bottle; you see I keep it corked tight; but just put it up to your nose.

Far. Scott. Sn-e-u-w,—why, that's harts horn!

Neigh. L. Mr. Liebig says that all putrifying animal bodies, and animal manures, are constantly giving off this substance, which passes into the atmosphere, and every shower of rain and fall of snow brings it down to the ground again.

Far. Scott. Well, but we were just now talking about sowing plaster on snow. What has this bottle of harts horn to do with that!

Neigh. L. I must give you a little more book knowledge, before I can explain the matter properly. Here is another book written by Sir H. Davy, another "scientific book learned man." We shall find in this, that 100 parts of plaster, when pure, consists of about 33 parts lime, 46 parts sulphuric acid, and 21 parts water; and also that harts horn is composed of 39 parts ammonia, 50 parts carbonic acid, and 11 parts of water. I will put a little of this harts horn in the saucer and dissolve it in water, which you see it will do very readily;—now I will put in a little plaster. Do you see what a commotion it makes!

Far. Scott. I declare! that's curious. What is the cause of its boiling so!

Neigh. L. I have not time to tell you now; but here is a book I will lend you, called Parker's Chemical Catechism, which will give you the desired information. We have now in the dish neither harts horn nor plaster; but two other compounds entirely different from either; one is sulphate of ammonia, and the other is carbonate of lime.

Far. Scott. I can easily see *now*, that when plaster is sown on snow, or when rain falls upon it, the plaster instead of being *dissolved*, as has heretofore been supposed, it undergoes a DECOMPOSITION; and its constituents form other compounds in the soil.* But then I cant see what effect these other compounds can have on the clover, or the soil, more than the plaster.

Neigh. L. You are progressing very well in your study of chemistry. But to answer your last question, you must take another lesson or two from the Muck Manual, written by Dr. Dana. He says that all soils contain geine,—that geine consists of decomposed animal and vegetable matter in the soil. Geine exists in the soil in two states, soluble and insoluble. Soluble geine is the food of plants. It is soluble both in water and alkali, in alcohol and in acids. By the action of an alkali, geine is converted into a substance having acid properties; and in this state it combines with earths, alkalies, and oxides forming neutral salts, called geates. These are all very soluble in water. By the action of growing plants upon silicates contained in the soil, potash and other bases are set free. It is also laid down as a general rule, that carbonic acid and the carbonates, decompose the earthy, alkaline, and metalic silicates of soils. And his tenth principle is, that the *base* of all salts, acts ever the same in agriculture. Peculiarity of action depends upon the *acid* of the salt.

Far. Scott. There is too much of your scientifics there for me—(I wish you would not let me forget to take that book home with me, that you mentioned a while ago.)

Neigh. L. It is true, it requires a great deal of study to understand the nature of all these matters. But it is not necessary that farmers should understand the whole details. It is enough that they understand the general principles of the action of the various substances composing the soil, and of the manures applied to it, and of the action which growing plants exert upon them. Dr. Dana has studied these subjects thoroughly, and has demonstrated every proposition by many and varied experiments; and he has been careful not to make an assertion until he has fully tested it by experiment. We may therefore place the utmost confidence in his statements. What he means by the word "salt" is a compound of an acid with a mineral substance. Harts horn is a salt, and plaster is a salt, in the sense he uses the term. Plaster being a salt, the base of which is lime, on being decomposed, the lime acts on the geine of the soil in the same manner that common lime would; which he says, will decompose the earthy alkaline, and metalic silicates of soils; and will also convert solid vegetable matter into soluble food of plants. The sulphuric acid, having entered into combination with the ammonia contained in the water and snow, forming sulphate of ammonia, which is very soluble in water, will form new combinations in the soil with the geine, or other substances, rendering them more suitable to be received into the pores of the roots of plants. How far the sulphuric acid contained in the plaster may operate when set free, in the production of electrical action in the soil, and thereby producing an increased vigor of the plant, and causing it to perform its functions with greater force and rapidity, has not yet been fully ascertained by scientific men.*

Far. Scott. Can you tell why it is that plaster will sometimes have as great effect in a dry season, and often better than when it is wet!

Neigh. L. The soil is an immense chemical labratory; and combinations, decompositions and changes are constantly going on in the soil; and the vital principle of vegetation is a great agent in producing these changes † It is well known that there are several other substances besides ammonia that will decompose plaster. Carbonate of potash will decompose it; and potash is set free by the action of growing plants upon the silicates in the soil, which will decompose the plaster, as well as ammonia. Carbonate of soda, and of magnesia, and common ashes when mixed with plaster, will decompose it. It is reasonable to infer, then, that similar changes take place in dry weather as in wet.

Far. Scott. I should like to know one thing more. Why was it, that when I put plaster on my land the *third* year, that I did not get as large a crop of clover as I did the first year!

Neigh. L. I will answer that question too by looking into another book. This is called Flora Cestrica, and was written by Dr. Darlington of Pa. You will find on page 407, as follows. "Authors generally consider clover a *perennial* plant. But a distinguished Agriculturist of New England asserts positively that it is *biennial;* and my own observations incline me to the same opinion. It is certain that a large proportion of the cultivated plants disappear after the second year, and those which apparently remain may be only small plants from fallen seeds." The reason, then, that you had no clover the *third* year, was because there was but little left there to grow—the old having died out, and you cut it off without letting it go to seed.

Far. Scott. I would be glad if you would satisfy me about another matter. How did it happen that my ground after receiving *two* dressings of plaster, was still poorer than your land which was plastered but once!

Neigh. L. You have seen that geine is the food of plants, and that geine consists chiefly of decomposed vegetable matter; now upon the supposition that both soils contained an equal amount of geine when the experiments were commenced, you will see that you carried off from your land *four* successive crops, before you planted corn. I took off but *two* crops, and burried *one* in the soil, to form more geine in the place of that I took away. But I can show you that my land was actually richer in geine when the wheat was sown, than it was when the experiment was begun; because the clover crop that I plowed in, returned more to the soil, than the two crops of clover that I carried away, took from it, besides the beneficial effect of the clover in decomposing the salts and geine, and in shading the ground.

Far. Scott. Now, you need'nt try to fool me that way; you cant make me believe that a *half* is more than a *whole*.

Neigh. L. Well, I shall, nevertheless, try to explain my statement. Some of my books say that the atmosphere contains a quantity of carbonic acid gas, besides its constituents of oxygen and nitrogen; and they state too that clover consists of carbon, oxygen, hydrogen, and nitrogen; besides its earthly materials. Now all these matters, except the mineral ingredients, come from the air and water, and the earthly materials bear but a very small proportion to the others. You

* Dr. Dana's views of the operation of plaster are, that *plants* first decompose the plaster, and then the lime acts on the geine which is rendered soluble, and the sulphuric acid acts on the silicates; and if silicate of lime should be present, the acid and lime would recombine, and more plaster would be formed in the soil.

* Dr. Dana says, "The mere presence of a living, growing plant in a soil, in one year effects a greater amount of its decomposition, than all atmospheric influences, in many years." This suggests the propriety of using clover, and the impropriety of naked fallows, to enrich soils.

† It has been ascertained by repeated experiments, that sulphuric acid produces nearly or quite as good effects on clover as plaster.

may therefore easily perceive, that if the greater part of the substance of clover is extracted from the air and water, and but a small proportion from the soil, that one crop of clover plowed into the soil may return more vegetable matter, than two crops extracted from it. This is a wise provision of nature, and one which it is very important should be understood by a farmer; for if this was not the case, the land would soon become barren, without the possibility of restoring its fertility.

Far. Scott. Well, I must confess, I have learned a great many things that I had not thought of before. I have a mind to try the effects of plaster once more; for I cant see why it may not do my land as much good as yours. I wish you would give me your plan of using plaster, and I will try it again upon your plan.

Negh. L. I would not use plaster upon the supposition that it is of itself a manure (except in a slight degree) but I would use it for the purpose of *producing* manure. And to that end I would always use it in connection with clover; and I would sow the plaster at the same time I sow the clover seed—say in February—for both science and practice confirm the utility of sowing the plaster early—even when the snow is on the ground.—And I would give the clover another dressing of plaster in the following year, in April, after the leaves of the clover had nearly attained their full size. By this means, the poorest lands may be made to yield a large crop of clover, and if the land had not been too much exhausted, I would take off one crop of hay, and then plow in the second crop in August, and prepare the ground for wheat. But before turning the clover in, I would sow a bushel or more of plaster on the clover, and plow the clover and plaster in together.

Far. Scott. That is another new idea! I have always seen plaster put on the clover when it was young, to make it grow. But I never before heard of sowing plaster on clover after it had done growing. What is the philosophy of that!

Neigh. L. The reason of this is thus stated in the American Farmer, "It has been ascertained by *repeated experiments*, that a liberal application of plaster to clover at the time of turning it down, and preparing for a wheat crop, is by far the most advantageous to the crop, and much preferable to turning in the clover in the usual way, and plastering on the surface. The action of the plaster, thus excluded from the atmospheric air, upon the clover covered over, is instantaneous, and the putridity is so certain, as to cause considerable gas, which in its passage through the clod impregnates it with all its manuring qualities and the root of the plant shoots down, and feeds on a bed of manure." You will observe here, that I use plaster for two different purposes.—First, to cause the clover to grow, to afford manure to enrich the land; and secondly for the purpose of cooking or preparing the clover so as to bring it sooner into a state suitable for the food of the wheat plants.

Far. Scott. I will certainly try your plan as soon as I can make arrangements for it. I perceive it is nearly noon, and I must go;—I came over in a great hurry; but the time has slipt away very quick. I will be much obliged for the loan of that *book*. I perceive I am not yet too old to learn.

Neigh. L. You are entirely welcome to the use of that or any other of my books. And I hope you will give the plaster another trial; and then do not fail to write the result, and send it to the Ohio Cultivator.

D. L.

Mount Tabor, Ohio, January, 1846.

* See experiments made by Col. Taylor of Virginia, in 1807.

The American Herd Book, proposed to be published by L. F. ALLEN, Esq., of Black Rock, N. Y., we learn by a letter from that gentleman, is now in press, and will be ready for delivery about the 1st of April. It has been delayed by the tardiness of some extensive owners of short horned Cattle, in sending their pedigrees, &c. It will contain, in addition to pedigrees, remarks on the history and management of this breed of Cattle; and will make a handsome volume of not less than 200 pages.

"Sampson." Mr. Eaton's big Horse, (and his 2 colts,) will be in this City the coming week—at Major Barker's Livery Stable, and in the street, on the day of the Convention, (4th.) He is to be kept at Circleville, we understand, during the spring.

☞ Notices of publications, and a variety of other articles in type for this number, are crowded out.

CALL THE ROLL!—We shall attempt to give a list of the agricultural papers published in the United States, in our next. Several have *died* during the past year, or are *missing*, and a few new ones have appeared.

ENGLISH NEWS.

The arrival of the Hibernia brings English dates to Jan. 4, one month later than our last quotations. The news is highly interesting in a political and commercial, if not agricultural point of view. The opposition to the odiuus CORN LAWS has become so strong as to have caused a double somerset of the British Cabinet. The whole body of ministers, with Sir Robert Peel at their head, tendered their resignatioas to the Queen, which was 'most graciously' accepted; and the Premiership was, by Her Majesty, tendered to Sir John Russell, the leader of the Whig or opposition party. But his Lordship found himself unable to form a Cabinet of his friends, who could act harmoniously in reference to the great issue of the day, the Repeal of the Corn Laws, and he in turn tendered his resignation to the Queen, who then recalled Sir Robert Peel, and he re-organized his Cabinet with some few alterations, not materially changing its character.

What the result of all this will be, cannot be foretold till the assembling of Parliament, which was to take place on the 22d of January. 'Then comes the tug of war.' It seems to be confidently expected by some of the leading papers, that the Corn Laws will be repealed. But others, and we think the most sensible, believe that a fixed moderate duty or a gradually decreasing one, will be substituted. At any rate we do not anticipate that the farmers of this country need look for any great permanent increase of demand for their produce from that quarter, though with the present scarcity of bread stuffs in Europe all our surplus will undoubted command good prices for exportation.

THE ENGLISH MARKETS were generally in a very unsettled state, owing mainly to the uncertainty respecting the change of the rates of duty. Flour and wheat was in pretty good demand, and the American provision trade continued active with prices steady.

AMERICAN WOOL IN ENGLAND.—A Liverpool Circular of Jan. 4th, says, "The import of wool from the U. S. exceeds 38,00 bales. In washing and preparing the wools sufficient pains have not been taken, and there is a want of discrimination in the selection of qualities. So far as used they have been highly approved; and we have full confidence that, if got up with care, they will be highly esteemed in this country. Prices of American wool this day—merino fine clean fleeces 1s 8d @ 1s 10d, second do. 1s 6d @ 1s 8d; fine, partially washed, 1s 4d @ 1s 7d; second quality do. 1s 2d @ 1s 4d; Ohio fleeces 1s 1d @ 1s 4d; pulled wool, fine, 1s 4d @ 1s 6d; do. second quality, 1s 1d @ 1s 4d; do. do. coarse 1s 0d @ 1s 1d."

☞ *Note*, the English shilling may be reckoned 24 cents, and the penny almost 2 cents; then the above will be plain to all of our readers.—Wool is free of duty.

THE MARKETS.

CINCINNATI—*week ending 28th.*—River navigation good, and trade tolerably active, though money continues scarce. Flour sells at $3,75 @ 4,00. Wheat continues at 75 cts., Corn 33 @ 35 cts., Oats 23 @ 25, Rye 50 cts., Barley 65 @ 70 cts. ℔ bu. Clover seed has come in freely; sells at $5, @ 5,25, and 5,50 at retail. Timothy seed is scarce and high—sells at $2, to $3 ℔ bu., according to quality. PORK has been sold during the week, at $10,50 ℔ bbl. for mess, and 8,50 for prime. Bacon shoulders 5½ cts. ℔ lb, hams 7½ cts; sugar cured do. 9 cts. Lard is in fair demand at 6¼ to 6½ cts. ℔ lb. Butter comes in freely; packers pay 10½ @ 11 cts., retails in market at 12½ to 16 cts. A sale of 10,000 lbs W. Reserve, in jars and kegs, &c., was made at 11 cts. Cheese of good quality, in boxes, brings 7½ @ 8 cts. Eggs are becoming more plenty, prices have declined to 12½ cts—packers pay 10 @ 11 cts. ℔ dozen. CATTLE of good quality have sold pretty freely at $3 ℔ 100 lbs.—extra lots at $3,25 @ 3,50. HOGS, in small lots sell at $3,6) @ 3,62½ ℔ 100 lbs.

New York, Jan. 26. The foreign news has not materially affected the markets. Genesee and Michigan flour sold at the close of the week, at $5,62½. The large exportations have left the stock on hand less than at the same period last year. Wheat is $1,25 ℔ bu.; Rye is 78 @ 86 cts.; Corn 66 @ 68 cts.; Oats 46 @ 48 cts. Provisions are dull. Beef is nominally $8 @ 8,50 for mess, @ $5, to 5,50 for prime. Mess Pork $12,75 @ $13: prime $10 @ 10,25. New Lard, bbls. and kegs, 8 @ 8½ cts. ℔ lb. Clover seed is dull at 10 cts. ℔ lb.

COLUMBUS PRODUCE MARKET.

[MARKET DAYS WEDNESDAYS AND SATURDAYS.]

Corrected for the Ohio Cultivator, Jan. 31.

GRAIN.			
Wheat, full wt., bu.,	75	a	
Indian corn,	23	a	
Oats,	17	a	18
PROVISIONS.			
Flour retail, bbl.,	4,25	a	4,50
" 100 lbs.	2,50	a	
" Buckwheat,	1,75	a	2,00
Indian meal, bu.	31	a	
Hominy, qnart,	3	a	4
Beef, bd. qr.			
" 100 lbs.,	2,50	a	2,75
" fore qr.,	1 75	a	2,00
Pork, large hogs,	3,50	a	
" small "	3,00	a	
Hams, country, lb.,	6	a	7
" city cured,	7	a	8
Lard, lb., ret.,	7	a	8
" in kgs. or bls.	6	a	7
Butter, best rolls,	12½	a	
" common	9	a	10
" in kegs,	7	a	8
Cheese,	7	a	
Eggs, dozen,	10	a	12½
Maple sugar, lb.			
" molasses, gal,			
Honey comb, lb.	10	a	12½
" strained	12½	a	14
POULTRY.			
Turkeys, each,	37	a	50
Geese, "	18	a	25
Ducks, "	8	a	10
Chickens, "	8	a	10
SUNDRIES.			
Apples, bu.,	1,00	a	1,25
" dried,	1,50	a	1,75
Peaches, dried,	2,00	a	
Potatoes	31	a	37
Hay, ton,	5,00	a	6,00
Wood, hard, cord,	1,25	a	1,50
Salt, bbl.,	2,00	a	2,25
SEEDS.			
Clover, bu.,	4,25	a	4,50
Timothy,	1,75	a	2,00
Flax,	75	a	81
ASHES, (only in barter.)			
Pot, 100 lbs..	2,75	a	
Pearl,	3,50	a	
Scorched salts,	2,50	a	

Portage Mutual Fire Insurance Company,

Cuyahoga Falls, Ohio.

CAPITAL TO MEET LOSSES $100,000.

THE Oldest, the Largest and richest Company in the West.—Agents at most of the principal towns in the State.

SEEDS! SEEDS!!

A FULL assortment of Superior Garden Seeds, including Flower Seeds for the Ladies, will be ready for sale in a few weeks, at the office of the Ohio Cultivator. Jan. 1

SEED STORE.

ELY & CAMPBELL,

23, Lower Market Street, Cincinnati.

WILL pay cash at the best market rates for Clover, Timothy; Orchard grass, Blue grass, Red Top, Flax and Mustard seed &c. Keep constantly on hand, and for sale, all kinds of Garden, Flower and field seeds. Also, Agricultural Impiements, Agricultural and Horticultural books and papers. They also execute all orders for Fruit Trees, Ornamental Shrubs, &c.

OAKLAND FEMALE SEMINARY,

[Hillsborough, Ohio.]

THE 14th session of this institution will commence on Wednesday, March 25, 1846, and continue 20 weeks.

TERMS.

Arithmetic, Geography, Grammer, Reading and Writing, in advance	11 00
All higher studies in advance	15 00

EXTRA CHARGES.

Music, with use of Piano, per session	20 00
Drawing	8 00
Painting	10 00
Embroidery	5 00
French, German, Latin and Greek languages	12 00

Boarding with the principal, $1 75 per week if paid in advance, or $2 if not in advance. Payments will be considered in advance if made within one month after the pupil enters. Boarding may be obtained in good private families at $1 50 per week. Washing costs 50 cents per dozen. Young ladies furnish their own towels.

JO. McD. MATHEWS, Principal.

Hillsborough, Jan. 1, 1846.—4t.

N. H. Taylor,

Having established himself in this city, is now prepared to execute orders in the Art of ENGRAVING, in the office of the Ohio Cultivator, corner of High and State streets.

VALUABLE MILL SITE FOR SALE CHEAP on the St. Mary's River, at Mendon, Mercer co., O., 7½ miles from Miami Extension Canal, and in a good wheat region.

Inquire of— LEWIS CULVER.

[jan. 1, '46] *At Mendon.*

☞ SHORT ADVERTISEMENTS, suited to the agricultural character of this paper, will be inserted at the rate of six cents per line, for the first insertion, and three cents for each subsequent insertion. ☜